

**In the Claims:**

The following listing of claims replaces all other prior listings of claims.

1. (previously presented) A method of diagnosing a pathological condition of a patient's body tissue, the method comprising: determining the presence or severity of ischemia in the tissue by inserting a pH sensor into the tissue, directly measuring intracompartmental pH in the tissue, and using the intracompartmental pH measurement to diagnose the pathological condition; wherein the pH sensor consists of a single probe mounted on a catheter.
2. (original) A method as claimed in claim 1, wherein the tissue is muscle.
3. (previously presented) A method as claimed in claim 1, wherein a second sensor is used to measure the intracompartmental pressure in the tissue.
4. (cancelled)
5. (previously presented) A method as claimed in claim 1, wherein the catheter is inserted into a muscle through a cannula.
6. (previously presented) A method as claimed in claim 5, wherein the cannula is inserted into skeletal muscle in an orientation that is generally parallel to the muscle fibres.
7. (previously presented) A method as claimed in claim 5, wherein the cannula is inserted into a muscle adjacent to a bone fracture site, but not communicating with the bone fracture site.
8. (previously presented) A method as claimed in claim 1, wherein the reading from the sensor is compared with a calibrated scale to determine the extent of tissue damage.

9. (previously presented) A method as claimed in claim 1, wherein the pathological condition is Acute Compartment Syndrome.
10. (cancelled)
11. (previously presented) A method as claimed in claim 1, wherein the ischemia involves a shock selected from the group consisting of septic shock, neurogenic shock, cardiogenic shock and hypovolaemic shock.
- 12-23 (cancelled)